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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,877	07/23/2003	Dennis S. Fernandez	FERN-P014	1743

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EXAMINER

KLEBE, GERALD B

ART UNIT PAPER NUMBER

3618

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/626,877	Applicant(s) FERNANDEZ, DENNIS S.	
	Examiner Gerald B. Klebe	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/12/2005 and 08/30/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

G B Klebe
21 November 2005

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07/12/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment(s)

1. The Amendment filed 07/12/2005 and the Supplemental amendment filed 08/30/2005 each have been entered. Claims 1-21 are pending in the application, independent claims 1, 12 and 13 being amended and new independent claim 21 being added.

Specification - Objection(s)

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 21 recites the limitation: "... means for coupling an electronic controller to a fuel cell module and a telematic appliance; and means for controlling adaptively by the electronic controller the fuel cell module electrical power to generate electrical power for the telematic appliance, a software being run by the controller to control the power adaptively by redistributing such power reactively or proactively according to a determined load ratio or a power usage proportion."

The disclosure as originally filed, including the specification and drawings, fails to identify and specify the "... means for couplingpower usage proportion."

Appropriate correction is required. No new matter should be entered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-11, 13, and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cramer et al. (US 2003/0230443 A1).

Cramer et al. discloses (**re: claim 1**) a vehicle power and telematic control system and (**re: claim 13**) automotive electrical apparatus comprising:

(**re: claim 1**) an electronic controller (Fig D10, item 320; and refer para [0338]); a fuel cell module (Fig CR3; item 110); and a telematic appliance (Fig D10, item 322), wherein the electronic controller couples electrical power from the fuel cell module adaptively to the telematic appliance (see Figs D8 and D10, item 318 and refer para [0344]; and see also Fig CR3 which shows the fuel cell module (110) providing power to the 42 volt bus (item 139) which provides the source power bus for the telematics controller (Fig D10, item 322)); **and having a software run by the controller to manage the power adaptively by redistributing such power reactively or proactively according to a determined load ratio or power usage proportion** (refer Fig D10, which shows the central electronic controller (item 320) adaptively managing the power for vehicle dynamics and vehicle body control via high- and low-speed CANs (Computer Area Networks (item 324) which are digital computer networks that inherently, comprise software; refer para [0346] lines 6-7 stating that “the controllers are connected ... via a high-speed data backbone”); refer to the reference’s paragraphs [0309], [0306] and [0307] and with particular attention to paragraphs [0311], [0312], [0317], [0318], [0332], [0333], and [0338]); and

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further comprising (**re: claim 13**) a multi-level voltage unit (refer Fig CR3) and a telematic system coupled to the multi-level voltage unit for accessing a first and a second voltage source; and having a software being run to manage the voltage source adaptively by redistributing the power of such voltage source reactively or proactively according to a determined load ratio or power usage proportion (refer Fig CR3 and associated text at paragraph [0259] and following, which shows/discuss the fuel cell power being managed by a “digital power manager” to dynamically and adaptively distribute the power reactively or proactively according to a requirement for a determined load ratio or a determined power usage proportion, between the power for driving the vehicle (via the high-voltage circuits; refer to paragraph [0260] and following) and the power for the non-traction-motor electrical needs of the vehicle Ring Main Power Supply (see Figures D1-D10 and refer paragraph [0309] and following). Since the power manager controller is digital it is inherent that it has a software package for its operation (refer paragraph [0309])); and,

and wherein (**re: claim 2**) the electronic controller (item 320) stores the electrical power from the fuel cell module by recharging a lithium-ion battery (refer para [0274], lines 1-3 and Table 1: Component and Description; refer to the last sentence of the description for component Nos. 100,101); and wherein (**re: claim 4**) the controller couples to the fuel cell or telematic appliance through a shared connection through which a control signal and a power signal is provided (refer para [0336], lines 15-18); and wherein (**re: claim 5**) the controller couples electrical power from a generator to the telematic appliance (refer Fig D8, item 318 and para [0332], lines 14-18); and wherein (**re: claim 6**) the controller controls the electrical power in response to a sensor signal provided by the telematic appliance (refer para [0379], lines 4-9); and

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wherein (**re: claim 7**) the sensor signal represents a fault or error condition in the telematic appliance (refer para [0363], lines 1-10); and (**re: claim 8**) wherein the sensor signal represents a media format or load in the telematic appliance (refer para [0356] and para [0357], lines 1-3); and (**re: claim 9**) wherein the sensor signal represents a location or jurisdiction of the telematic appliance (refer para [0371]); and wherein (**re: claim 10**) the electronic controller controls the electrical power in response to a measured quality of an electrical power signal (refer para [0264]); and (**re: claim 11**) wherein the controller controls the electrical power according to a predicted function or scheduled service in the telematic appliance (refer para [0364], lines 15-20); and (**re: claim 15**) wherein a DC-DC converter couples the first voltage source to the second voltage source (refer para [0318] and para [0317]); and (**re: claim 16**) wherein the telematic system is coupled adaptively to the voltage unit, thereby enabling such voltage unit to provide multi-level voltages to one or more telematic appliances from the group consisting of a wireless or satellite network or communications device (refer para [0351]), a digital video or audio media or entertainment device (See Fig D13 and refer para [0394]), a global positioning or navigational locator or guidance device (refer para [0351]), and an image camera (para [0361]), radar (para [0315]) or biometric sensor device (para [0381]); and wherein (**re: claim 17**) the first or second voltage source comprises a fuel cell stack (Fig CR1, item 110), whereby such stack enables multi-level voltages to be generated by one or more fuel cells from the group consisting of a proton exchange membrane fuel cell (refer Table 1: item 110: Fuel cell stack; line 1: "this PEM..."), a solid oxide fuel cell, an alkaline fuel cell, a phosphoric acid fuel cell and a molten carbonate fuel cell; and further comprising (**re: claim 18**) a body or power train controller (see Fig D5 and refer para [0341]), coupled to the multi-level voltage unit for accessing the first and

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second voltage source; and wherein (re: **claim 19**) the multi-level voltage unit is coupled to a vehicle multimedia bus or a human-machine interface (refer para [0307]); and wherein (re: **claim 20**) the telematic system comprises an optical, magnetic or biometric sensor (refer para [0381]).

5. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Cramer et al. (US 2003/0230443 A1).

Cramer et al. discloses a vehicle power and telematic control apparatus comprising means for coupling an electronic controller (Fig CR3; item 131) to a fuel cell module (item 110) and a telematic appliance (refer paragraph [0268]); and means for controlling adaptively by the electronic controller the fuel cell module power to generate electrical power for the the telematic appliance using a software run by the controller (refer paragraph [309] and following).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al. (US 2003/0230443 A1).

As discussed above, Cramer et al. discloses all of the features of claim 1 from which claim 3 depends and all of the features of claim 13 from which claim 14 depends.

Cramer et al. discloses a vehicle power and telematic control system and automotive electrical apparatus in which the electrical power is provided via power buses of 300 volts and 42

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volts (refer para [0318] and para [0317], respectively) rather than via buses at 36-42 volts and 12-14 volts, respectively.

However, the examiner takes Official Notice that in the automotive arts it is old and well-known to provide the electrical power systems in automotive vehicles at various bus voltages including at voltage levels of 36-42 volts and 12-14 volts depending upon the power needs of the vehicles electrical system (for example, refer para [0268] lines 12-14; para [0269], lines 9-13); and para [0332], lines 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have modified the disclosure of Cramer et al. to include multi-level electrical power buses with voltages in the ranges of 36-42 and 12-14 volts as obvious engineering design choices based upon the anticipated electrical loads of the vehicle.

Claim Rejections - 35 USC Sections 102 or 103(a)

8. Claim 12 is rejected under 35 U.S.C. 102(e) as anticipated by Cramer et al. (US 2003/0230443 A1) or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Cramer et al. (US 2003/0230443 A1).

a. As discussed above, relative to claim 1, the reference of Cramer et al. discloses a vehicle power and telematic control system comprising a fuel cell module, telematic appliance, and electronic controller wherein the controller includes software and couples electrical power from the fuel cell module adaptively to control the power by redistributing such power reactively or proactively according to a determined load ratio or a power usage proportion in which the method (of claim 12) is considered inherent and comprises the steps of:

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- coupling an electronic controller (Fig CR3) to a fuel cell module (110) and a telematic appliance (supported by the 42V bus, item 139; refer paragraph [0238] lines 9-11); and
- controlling adaptively by the electronic controller the fuel cell module electrical power to generate electrical power for the telematic appliance (refer paragraph [0238] lines 9-11); and
- a software being run by the controller to control the power adaptively by redistribution such power reactively or proactively according to a determined load ratio or power usage proportion (refer paragraph [0309]).

b. The Examiner posits that **the Cramer et al. reference teaches the claimed method of claim 12** because the method is inherently disclosed. The rationale for this inherency is that the prior art device of Cramer et al., in its normal and usual application would necessarily require the claimed method for constructing and operating the system. See MPEP Sec. 2112.02, and refer *In re King*, 801 f2d 1324, 1326; 231 USPQ 136, 138 (Fed Cir 1986).

c. However, even if not inherent , it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reference of Cramer et al. to include the claimed method of claim 12. Because the prior art discloses all the structure necessary to perform the claimed functions, one of ordinary skill in the art would find the claimed method to be an obvious step in light of the disclosed structures of the reference of Cramer et al.

Response to Argument

9. Applicant's arguments with respect to the claims 1, 12 and 13 have been fully considered but they are not persuasive. As discussed in detail above in the rejections under 35 USC § 102 and 35 USC § 103, the prior art of the reference to Cramer et al. (US 2003/0230443 A1) is found to anticipate each the claims of the amendment or the claims are considered obvious in view of the features disclosed in the reference.

Action is Final

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Prior Art made of Record

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The prior art of Kami; of Moskowitz et al.; of Parrillo; of Nishida; of Vickers; and of Kolls each show features in common with some of the other structures of the inventive concept disclosed in the instant application.

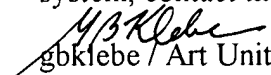
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Conclusion

12. Any inquiry concerning this or earlier communication(s) from the examiner should be directed to Gerald B. Klebe at 571-272-6695; Mon.-Fri., 8:00 AM - 4:30 PM ET, or to Supervisory Patent Examiner Christopher P. Ellis, Art Unit 3618, at 571-272-6914.

Official correspondence should be sent to the following TC 3600 Official number as follows: 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gbklebe / Art Unit 3618 / 21 November 2005



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